

WHAT IS CLAIMED IS:

1. An implantable, flat-woven multi-petaled graft comprising:
a hollow tubular woven portion having opposed first and second tubular ends, said woven portion having a number of warp yarns interlaced with a number of fill yarns in a flat-woven tubular woven pattern to define a flat-woven tubular diameter, and
a bulbous woven portion having opposed first and second ends, the first bulbous end having a greater number of warp yarns interlaced with said fill yarns in a flat-woven tubular bulbous pattern contiguously woven from said second tubular end to provide a seamless woven, wherein the greater number of warp yarns are threadingly engaged with said fill yarns to define a flat-woven bulbous diameter;
wherein said second end of said bulbous portion is scalloped with a plurality of petal-like projections seamlessly woven from said first bulbous end.
2. The graft of claim 1, wherein there are three petal-like projections.
3. The graft of claim 1, wherein said tubular portion is circumferentially crimped.
4. The graft of claim 1, wherein said petal-like projections are circumferentially crimped.
5. The graft of claim 1, wherein said petal-like projections have edges that are ravel-resistant.
6. The graft of claim 5, wherein said ravel resistant edges are formed by fusingly sealing said edges.
7. The graft of claim 6, wherein said edges include heat-fusible yarns.

8. The graft of claim 6, wherein said edges include an increased yarn density as compared to non-edge portions of said projections.
9. The graft of claim 1, wherein said petal-like projections are contoured.
10. The graft of claim 1, wherein said petal-like projections are contoured by threadingly engaging said additional number of warp yarns from said fill yarns.
11. The graft of claim 1, wherein said second end of said bulbous portion is contoured by threadingly disengaging said additional number of warp yarns from said fill yarns.
12. The graft of claim 1, further including a mechanical or tissue heart valve, wherein said woven petal-like projections are securably attached to said valve.
13. The graft of claim 1 wherein said petal-like projections are contoured to mimic the shape of the sinuses of Valsalva.
14. The graft of claim 5, wherein said edges are woven selvages.
15. The graft of claim 5, where said edges are cut from said bulbous second end.
16. The graft of claim 15, wherein said edges are ultrasonically cut from said bulbous second end.
17. The graft of claim 16, wherein said edges are ultrasonically sealed by fusing yarns disposed at said edges.

18. The implantable graft of claim 1, wherein said tubular woven pattern and said bulbous woven pattern are selected from the group consisting a plain weave, a basket weave, a twill weave, a velour weave, a double velour weave, a satin weave, a terry weave, and combinations thereof.

19. The implantable graft of claim 1, wherein said warp yarns and said fill yarns include materials selected from the group consisting of polyester, polypropylene, polyethylene, polyurethane, polytetrafluoroethylene and combinations thereof.

20. The implantable graft of claim 1, wherein said warp yarns are single ply, 70 denier, 54 filament, twisted flat polyester; double ply, 40 denier, 27 filament, twisted set polyester; or combinations thereof.

21. The implantable graft of claim 1, wherein said fill yarns are single ply, 70 denier, 54 filament, twisted flat polyester; double ply, 40 denier, 27 filament, twisted set polyester; or combinations thereof.

21. The implantable graft of claim 1, wherein said bulbous woven section is hemispherically shaped

22. A method for weaving a graft comprising:
weaving a first flat-woven tubular section having opposed open ends and having a number of warp yarns and a number of fill yarns interlaced in a woven pattern to define a first flat-woven diameter;
providing additional warp yarns;
weaving said additional warp yarns into a woven pattern with said number of fill yarns at one of said open ends of said first tubular section to define a bulbous woven section having a second flat-woven diameter, the second diameter being greater than the first diameter; and
scalloping said bulbous woven section to provide a multi-petaled woven end.

23. The method of claim 22, wherein said woven patterns of said first tubular end and of said bulbous section are selected from the group consisting a plain weave, a basket weave, a twill weave, a velour weave, a double velour weave, a satin weave, a terry weave, and combinations thereof.

24. The method of claim 22, wherein said warp yarns and said fill yarns include materials selected from the group consisting of polyester, polypropylene, polyethylene, polyurethane, polytetrafluoroethylene and combinations thereof.

25. The method of claim 22, wherein said warp yarns are single ply, 70 denier, 54 filament, twisted flat polyester; double ply, 40 denier, 27 filament, twisted set polyester; or combinations thereof.

26. The method of claim 22, wherein said fill yarns are single ply, 70 denier, 54 filament, twisted flat polyester; double ply, 40 denier, 27 filament, twisted set polyester; or combinations thereof.

27. The method of claim 22, wherein the step of step of scalloping said bulbous end further comprises:

cutting said bulbous woven portion along longitudinal portions to defines edges of a plurality of petal-like projections.

28. The method of claim 27, wherein said cutting is ultrasonic cutting.

29. The method of claim 22, wherein the step of scalloping said bulbous end further comprises:

seamlessly weaving a plurality of petal-like projections extending from said bulbous end.

30. The method of claim 29, further including weaving selvages to define woven edges of said petal-like projections.

31. The method of claim 22, further including radially crimping said woven tubular and said woven bulbous sections.

32. The method of claim 31, further including radially crimping said petal-like projections.

33. The method of claim 22, further comprising the steps of:
providing a mechanical or tissue heart valve; and
attaching said woven petal-like projections to said valve.

34. An implantable prosthesis comprising:
a hollow tubular woven portion having opposed first and second tubular ends, said woven portion having a number of warp yarns interlaced with a number of fill yarns in a flat-woven tubular woven pattern to define a flat-woven tubular diameter; and
a non-tubular woven projection seamlessly transitioned from said second tubular end.

35. The implantable graft of claim 34, further including a plurality of non-tubular projections seamlessly transitioned from said second tubular end.

36. The implantable graft of claim 34, wherein said non-tubular projections are petal shaped.